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BEFORE THE BOARD OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF WESTWATER FARMS, LLC FOR ADMINISTRATIVE APPROVAL OF THE HARLEY DOME 1 SWD WELL LOCATED IN SECTION 10, TOWNSHIP 19 SOUTH, RANGE 25 EAST, S.L.M., GRAND COUNTY, UTAH, AS A CLASS II INJECTION WELL	**OBJECTIONS TO PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER** **Docket No. 2010- 029** **Cause No. UIC-358.1**

Living Rivers ("LR") objects to the proposed Findings of Fact, Conclusions of Law and Order submitted to the Board of Oil, Gas, and Mining ("Board") by Westwater Farms, LLC (Applicant) resulting from a hearing in the above entitled matter on December 8, 2010. The application for the approval of the Harley Dome 1 SWD Well, located in Section 10, Township 19 South, Range 25 East, S.L.M., Grand County, Utah, as a Class II Injection Well (the "Application" or the "Well") The objections will be divided into the "findings of fact", "conclusions of law" and "order", preceded by an overview of the application.

OVERVIEW

As traditional energy sources based on hydrocarbons transition to new energy sources the Board is a critical public juncture for facilitating new energy resources while at the same time

ensuring the public's well being. The Application in this matter represents both the opportunity of new technology in the search for new energy sources, as well as, the possible problems such technology may introduce. During the course of the December 8, 2010 hearing Counsel for the Board and members of the Board stated they were restricted in the scope of their authority in reviewing the Application. LR takes the position the Board, both as a State agency and as a delegated agent of the Environmental Protection Agency (EPA), a Federal agency, must in reviewing new technology exam the potential impact and provide adequate measures for monitoring the new activity, in this case, the use of daily injection of 330,000 gallons of formation water into a relatively unknown geological structure near the Colorado River.

LR recognizes injection wells have been used in the past. However, the volume, pressure and various types of formation water with the possible blend of some fracking water being injected is unprecedented. As a result LR urges the Board to consider certain conditions be attached to the UIC permit being issued in the instance of this Application. At a minimum the Board needs to require weekly monitoring of the injection by means of electronic transmittal to the Division of Oil Gas and Mining's staff. In addition, a monitoring, or system of monitoring drill holes need to be placed between the site of approved injection well allowed under the UIC permit and the Colorado River in order to ensure the protection of the Colorado River.

The record for the December 8th hearing is convoluted as to whether the well allowed under the Application will or will not accept "fracking" water. *See* Hearing transcript, pages: 35, lines 12-17, 36, lines 1-10, 59, lines 8-10 (Injection well will accept no fracking water.). Yet, pages: 90, lines 14-25, 91, lines 1-21, 184, lines 19-25, 185, lines 1-14 and 186, lines 15-21 (Fracking water can be treated and injected.). Most importantly, counsel for the Division, Ms. Lewis indicates there are no Division of Oil, Gas and Minerals regulations which restrict the

injection of fracking fluids into Division permitted injection wells. *See*, Hearing transcript, pages: 186, lines 15-21. Ms. Lewis indicates the regulation of the injection of fracking water is regulated and monitored by the BLM, a Federal agency not present at the December 8th hearing. *Id.*

Fracking is water pumped under high pressure into drilled wells to develop hydrocarbon reservoirs. Fracking is literally cracking underground formations to free hydrocarbons which can then be brought to the surface for commercial development. A byproduct of fracking is freed formation water, sometimes referred to as produced water, which composes as much as 98% of the materials released due to the fracking. The fluid used to frack is a composite of many minerals and organic matter. In the process of fracking additional minerals found in situ in the underground formation are freed into the fracking fluid. The net result is the fracking fluid is distinct and potentially more toxic than the formation or produced water, both as to heavy metals and introduced organic matter.

The Applicant admitted inevitably the fracking fluid mixes with the formation or produced water. *See*, hearing transcript, page 91, lines 10-16. This mixing of fracking fluid with formation or produced water creates the difficulty of distinguishing between the fracked fluid, not to be injected into the proposed well, and formation or produced water, which the Applicant wishes to inject. And, the only governmental agency to regulate and monitor the disposition of the fracking fluid is the BLM not a part of this permitting process.

Finally, the Applicant has presented the Board with a project which includes a means of "cleaning" the formation water for subsequent agricultural use. The Application under review is only for the injection well. LR urges the Board to attach a condition to its approval of the

Application which would require the Applicant to present to the Board the progress, or lack thereof, the Applicant has made during the next year in completing the entire project so the promised agricultural water might actually be produced.

OBJECTIONS TO THE PROPOSED FINDINGS OF FACT

1. Paragraph 3, final sentence reads, "The BLM withdrew its objection by letter dated September 30, 2010." We would request the sentence be modified to state, "After the applicant met with the BLM Moab Field Office Manager, the BLM…"

2. Paragraph 10 states "The Subject Well was spud on May 13, 2010, and completed as an injection well on July 13, 2010." (Emphasis added) The dates are correct but no finding was made by the Board as to the categorization of the type of well which was completed on July 13, 2010.

3. Paragraph 12, final sentence states, "The Wingate is a porous reservoir and is capable of accepting the volume of produced water proposed to be injected by Westwater." We would request the addition of the following sentence, "The disposition and final location of the produced water is not known."

4. Paragraph 14 second sentence begins, "The Kayenta is approximately…" We would request the phrase "From the drill hole site, the Kayenta is approximately…"

5. Paragraph 17, subpart (iii) states "the proposed injection well and pressures will not initiate or cause fractures in the Wingate or the confining intervals that would allow the injected fluids or formation fluids to enter a fresh water aquifer or USDW;" We would request subpart (iii) be modified as follows, "the proposed injection well and pressures, at no more than 360 psi

and no more than 6500 barrels per day of injected fluids or formation fluids, will not initiate..."

6. Paragraph 23 second sentence states, "Westwater's evidence demonstrated that its operations will remove organic matter from the produced water and treat the water with biocide and sequestering agents before it is injected into the Subject well to prevent the formation of H2S gas in the Wingate reservoir, and that it will test the water in the Wingate to be certain that no H2S is being generated in the reservoir." The testimony offered at pages 68 (lines 16-20) and 72 (lines3-8) indicate the chemical and biocide methods Applicant has used in a different injection well operation in Colorado (Wellington, pages 71, 72 and 73 hearing transcript) where the injected fluid came from a single geological basin. The Applicant's witness referred to the Wellington operation as a "dedicated facility" meaning it was in a single geological basin and was only injecting fluids from that basin. (Page 75, line 4) The Applicant's hypothesis, not proven at the hearing or in the Cisco field operation, is the same chemical, biocide and sequestering agents method will effectively eliminate all organic life in the injection fluids. (Emphasis added.)

LR would request Paragraph 23, second sentence be amended as follows: " Westwater's testimony given by Mr. Stewart stated he had operated another injection well for a single geological basin in Wellington, Colorado, where he used chemicals, biocides and sequestering agents to eliminate organic matter. Such methodology in the Wellington, Colorado operation prevented the formation of H2S gas in the Wellington, Colorado operation."

7. Paragraph 24 should be changed to read: "The bond posted with the Division by Westwater is inadequate for purposes of the Subject Well and should be increased to $100,000.00."

8. LR respectively requests a new paragraph 25 be inserted with subsequent paragraphs being renumbered. The new paragraph 25 would read as follows: "For purposes of this hearing and review of the Application by the Board the Colorado River shall be considered drinkable water."

OBJECTIONS TO CONCLUSIONS OF LAW

1. Paragraph 5 states in part "Westwater has…satisfied all legal requirements for granting Westwater's Request for Agency Action." As noted in the preceding section, Westwater has proffered the experience of one of its owners with a single geological basin in Wellington, Colorado in terms of avoiding damaging or destroying another mineral estate, helium, owned by the BLM at Harley's Dome, the location of the Westwater injection well. The helium estate is estimated to be as rich as 2%. The disturbance or possible disturbance of another oil, gas or mineral estate by the Applicant is contrary to both State and Federal law. 30 U.S.C. § 526 (2010).

As a result the proposed conclusion in Paragraph 5 is incorrect. Until and unless Applicant is able to prove conclusively its proposed Injection Well will not disturb the Helium estate owned by the United States of America and managed by BLM the proposed Application should be denied.

2. During the course of the December 8th hearing the question of whether the produced or formation water was tributary or non-tributary to the Colorado River drainage system. The question is extremely important in the context of the Colorado River Compact (the Compact). *See, e.g.* Colorado River Compact, Art I (1922), ratified by The Boulder Canyon Project Act of 1928; see also, Arizona v. California, 292 U.S. 341 (1934). If the produced or formation water is tributary its extraction and injection would be contrary to the Compact. If the water is non-

tributary the proposed Application would not violate the Compact.

The Utah State Engineer is located in the same Department as the Division and Board of Oil, Gas and Mining. The Utah State Engineer has exclusive jurisdiction under the State Constitution and statutes to determine ownership of water located in Utah, and has responsibility for determining whether particular water, especially subsurface or ground water, is tributary or non-tributary, relative to the entire Colorado drainage located in Utah.

As the record stands to date the Utah State Engineer has made no such determination either as to the produced or formation proposed to be injected into the Westwater proposed injection well.

Contrary to the assertion of paragraph 5, as to the Applicant having met "all legal requirements", the lack of determination as to whether the produced or formation is tributary or non-tributary negates the assertion by the Applicant.

3. Paragraph 6 states:

> Approving the Subject Well as a Class II injection well, and approving the proposed injection operations, as introduced and adduced at the December 8, 2010 hearing in this Cause, is reasonable and in the public interest, and will prevent waste and will protect the correlative rights of all owners. (emphasis added)

Besides the legal question discussed in the preceding paragraph the public interest is not being met given the proximity of the Colorado River, one of three national rivers. Given its unique nature and the legal complexity surrounding the ownership and flow, the Board should not accept the Applicant's assertion the granting of the Application is in the public interest. The public interest, both for the Utah public and the national public is to require a more complete evidentiary record as to whether the formation water or produced water are from a tributary or non-tributary source. *See*, Clean Water Act, Safe Drinking Water Act (SDWA) 1974 (as

amended), Clean Air Act, Resource Conservation and Recovery Act: 42 USC 6905, 6912, 6925, 6927, 6974; 40 C.F.R. 144.31; 40 C.F.R. 146.21; 40 C.F.R. 146.22; and 40 C.F.R. 146.24.

ORDER

1. LR respectively requests the additional phrase "subject to the conditions herein detailed" at the end of paragraph 1.

2. LR respectively requests the additional phrase "provided no fracking fluids or fracking water be injected" at the end of paragraph 2.

3. LR respectively requests the additional phrase "and shall be monitored daily with a electronic record of said monitoring being supplied to the Division of Oil, Gas and Mining staff on a weekly basis" at the end of paragraph 3.

4. LR respectively requests a new paragraph 6 be inserted in the proposed Order which would read as follows: "The Applicant shall report to the Division of Oil, Gas and Minerals staff on a monthly basis, and the Board through said staff every six months on the work being done to complete the entire Westwater Farms project to generate water capable of being used for agricultural or other purposes."

5. LR respectively requests a new paragraph 7 be inserted in the proposed Order which would read as follows: "The Applicant shall drill, operate and maintain three monitoring lines to the Southeast of the approved injection well to determine if there is any seepage migrating from the injection well to the Colorado River. The Applicant shall report the results of said monitoring to the staff of the Division of Oil, Gas and Mining on a monthly basis during the operation of the injection well and for a period of ten years after injection operations have ceased."

6. LR respectively requests a new paragraph 8 be inserted in the proposed Order which

would read as follows: "The amount of the bond required of the Applicant shall be $100,000.00 and shall be reviewed annually by the staff of the Division of Oil, Gas and Mining as to its adequacy."

7. The remaining paragraphs of the Proposed Order would be renumbered and become 9 and 10 respectively.

CONCLUSION

LR as a participant in the December 8th, 2010 Board hearing appreciates the time and courtesies extended to it. As the preceding sections have detailed there are important facts, conclusions of law and parts of the proposed Order which need to be corrected, modified or added. In allowing a new technology to go forward as the approval of this Application does the Board, and in turn, the Division must take new precautions to ensure the public interest is protected.

Respectfully submitted this 4th day of January, 2011.

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Jacque M. Ramos

Counsel for Living Rivers

MAILING CERTIFICATE

I hereby certify that I mailed a true and correct copy of the foregoing OBJECTIONS TO PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER, postage prepaid, this 4th day of January, 2011 to the following:

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